Lectures Check Check

Project Introduction

1

Lectures Uploading

Professors can easily record their lectures and upload them to the system.

2

PDF File Uploads

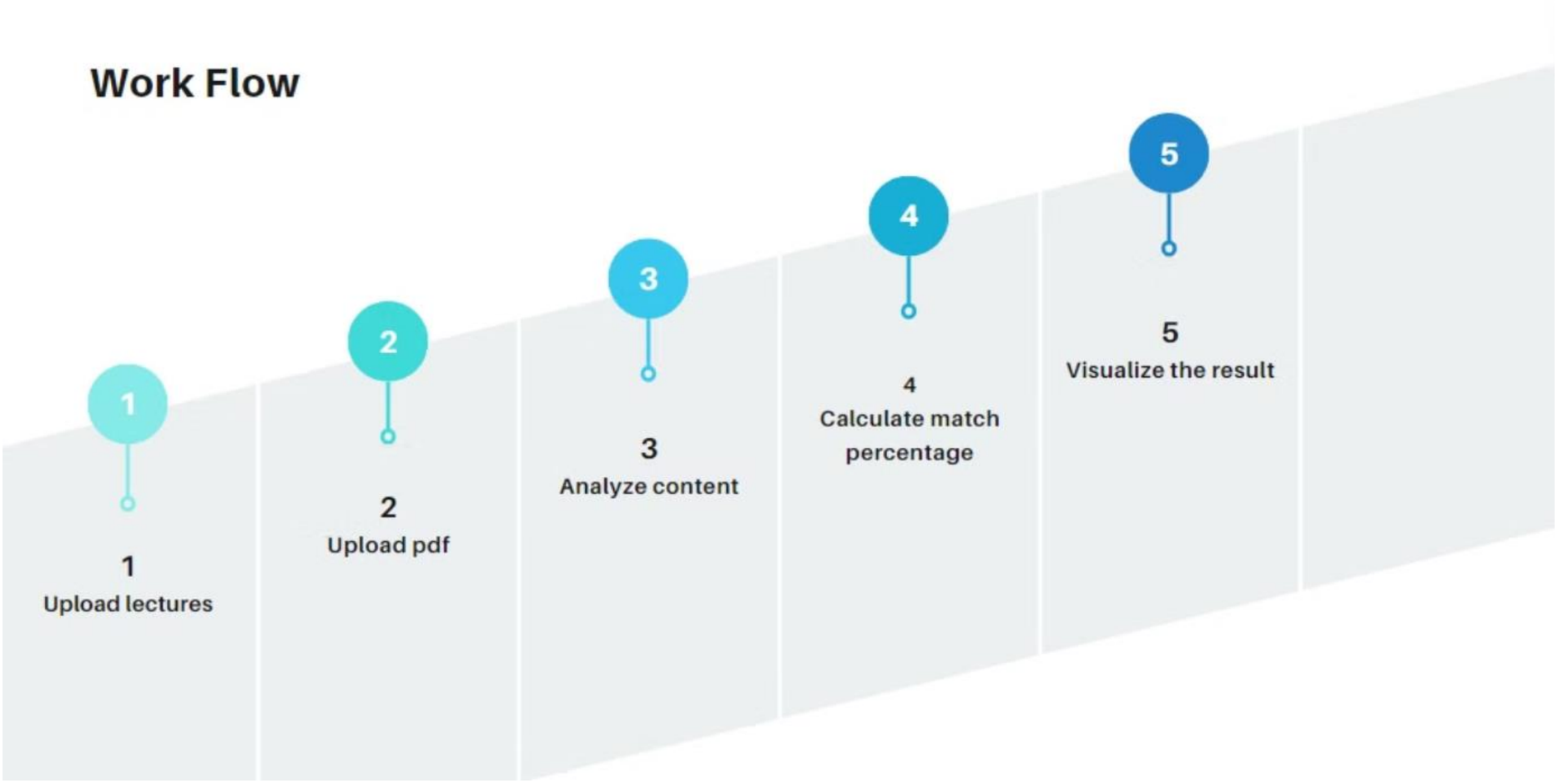
Professors can also upload supporting PDF materials for each lecture.

3

Automated Validation

The system automatically validates the video content to to ensure it covers the intended intended topics.

Work Flow



Lecture Video Recordings

Lecture Capture

Professors can easily record their lectures and upload them to the system for students to access.

Supplementary Materials

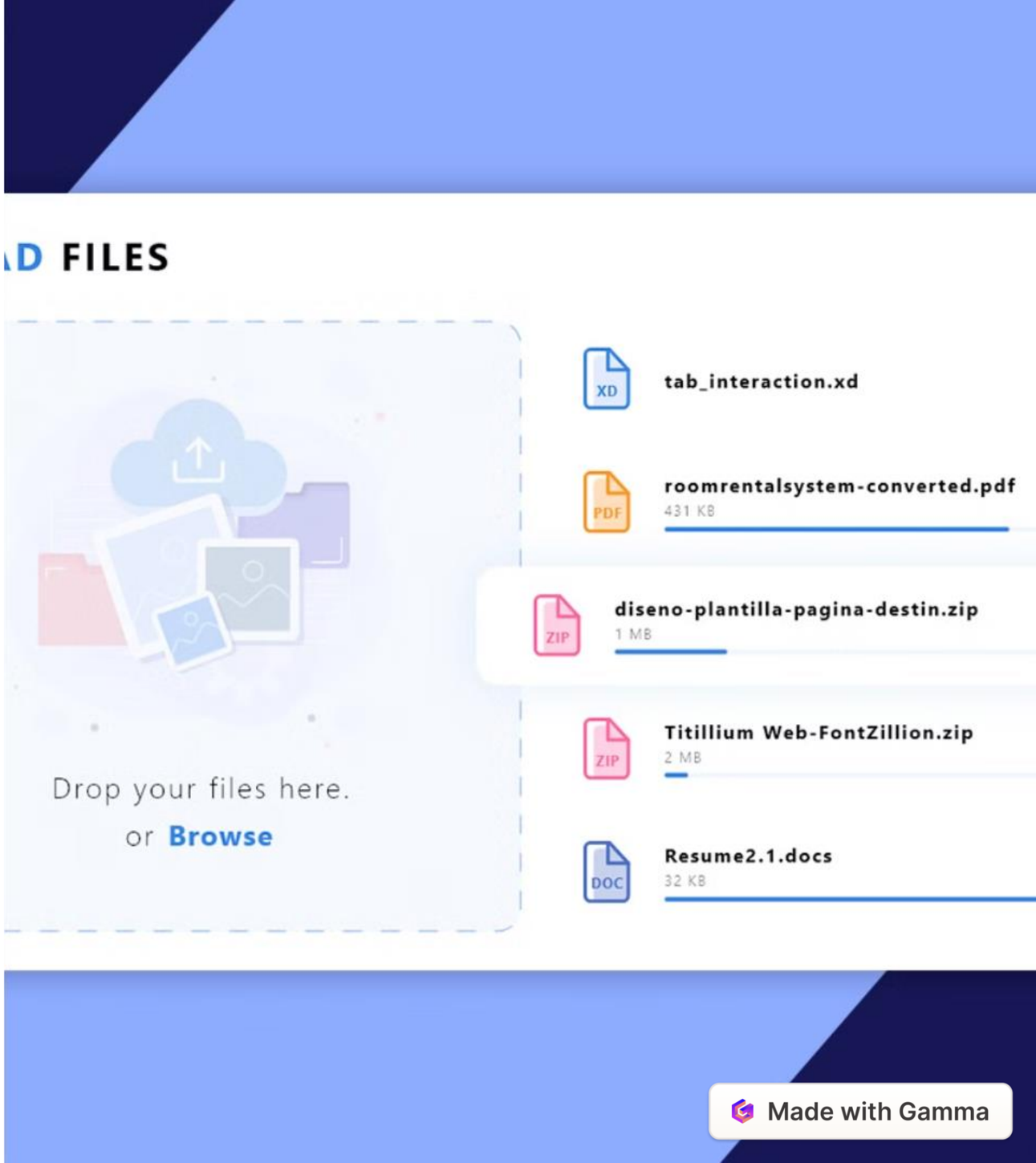
Professors can also upload supporting PDF materials to complement the lecture videos.

Automated Validation

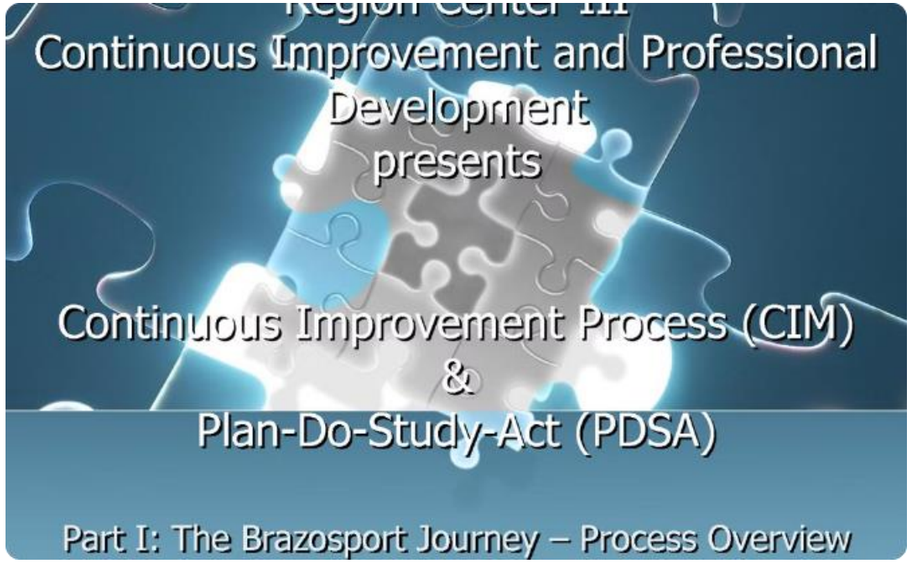
The system automatically validates the video content to ensure it covers the intended topics.

Lecture PDFs

Professors can also upload supporting PDF materials for each lecture. These PDFs provide additional details, examples, and resources to complement the video recordings.



Video Content Validation



Topic Coverage

The system analyzes the video content to ensure it covers the intended topics.

Continuous Improvement

The validation process helps professors enhance their lecture content and delivery over time.

PDF and Video Matching

Video Uploading

Professors record their lectures and upload the videos.

PDF Uploads

Professors upload supporting PDF materials for each lecture.

Content Alignment

The system automatically matches the video content with the corresponding PDF files.

Analysis of Video and PDF

Comprehensive Coverage

The system ensures that the video content and PDF materials are fully aligned and cover all the key topics.

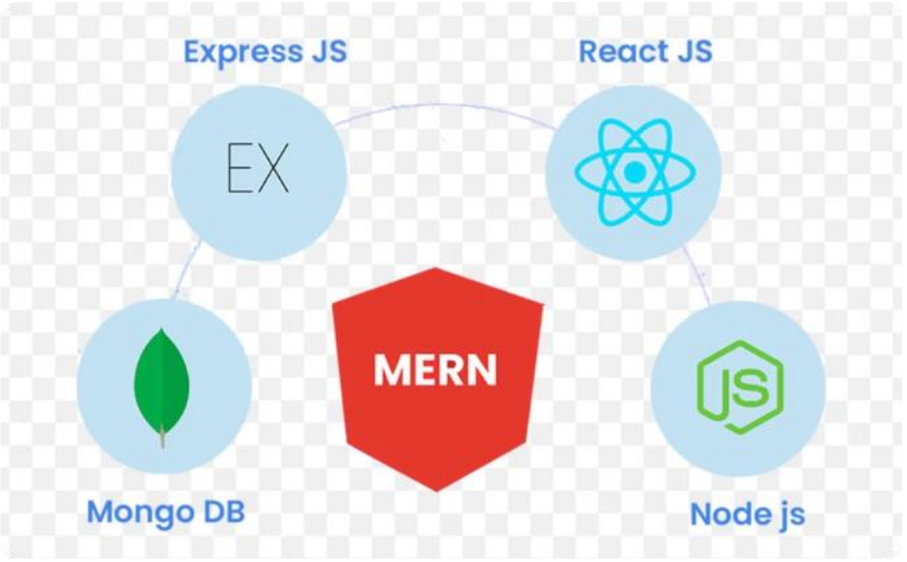
Detailed Insights

Professors can access in-depth analytics on student engagement and understanding based on the video and PDF content.

Technologies Used

Large Language Model (LLM)

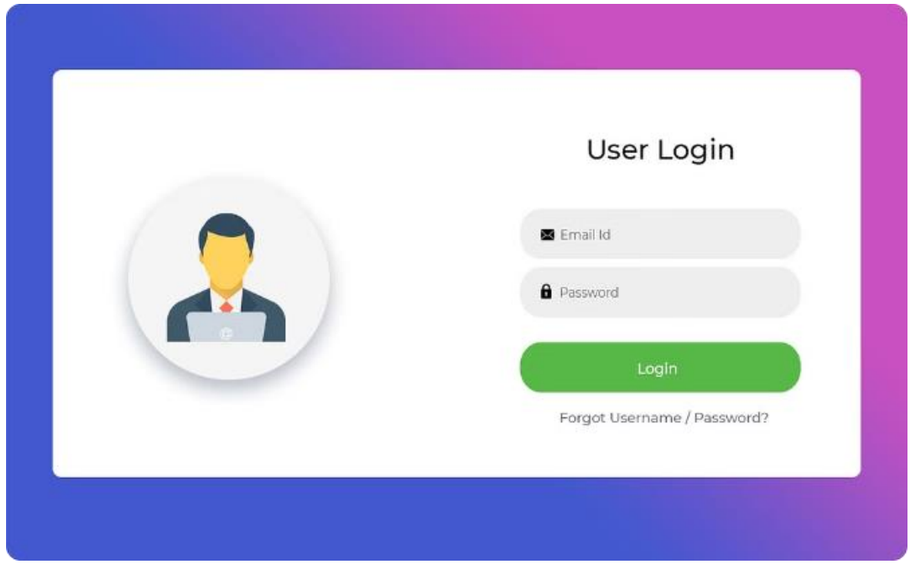
Advanced AI models that can understand and generate human-like text, powering the core functionality of the system.



MERN Stack

The MERN stack, consisting of MongoDB, Express.js, React, and Node.js, forms the robust and scalable technology foundation of the application.

Interfaces



Admin Interface

Allows users to input task data and select scheduling algorithms.

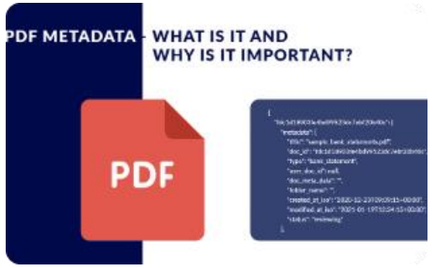
Task Monitoring Interface

Displays the current status of tasks and resource utilization.

Underlying Data Structures

Video Metadata

Title, duration, topic tags, and more



PDF Metadata

Title, page count, topic tags, and more

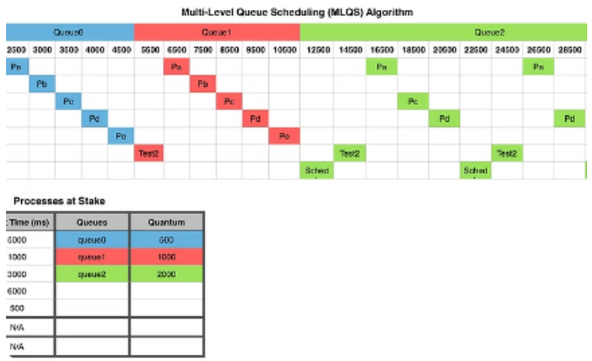
Content Mapping

Linking video segments to PDF pages based on topic coverage

Validation Logs

Records of successful/failed validations and content matching

Specific Business Logic



Scheduling Algorithms

The system employs advanced scheduling algorithms to optimize CPU usage and minimize wait times for efficient resource allocation.

Resource Allocation

The resource allocation logic is designed to maximize CPU utilization and ensure tasks are processed in a timely manner.

Performance Metrics

Relevant performance metrics are calculated and compared to continuously evaluate and improve the system's efficiency.

Conclusion

The Lecture Capture and Management System at Dune State University is a transformative initiative that empowers professors to deliver high-quality, engaging lectures and provides students with a comprehensive and accessible learning experience.